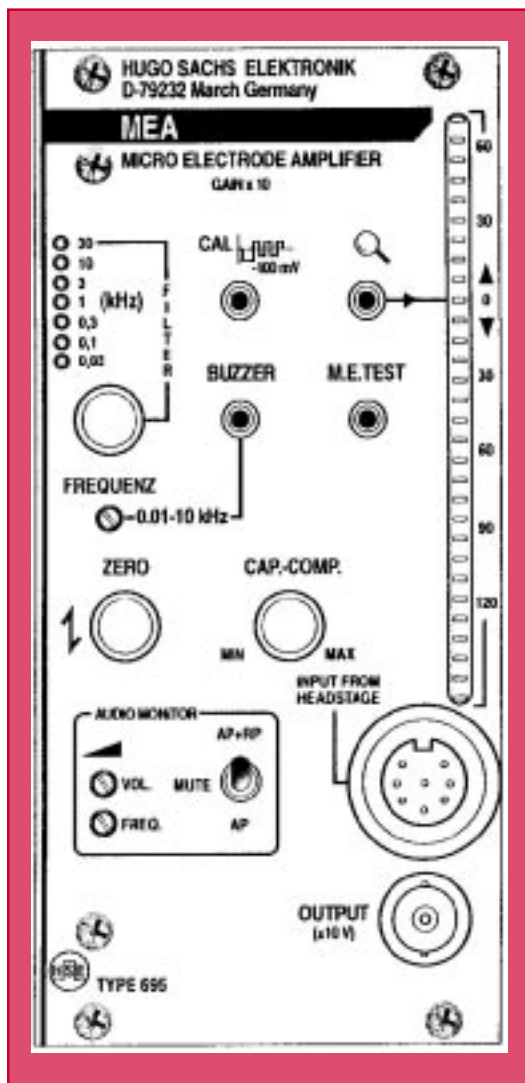


HSE-Harvard Microelectrode Amplifier Module (MEA)

- Microelectrode amplifier module with Headstage for intracellular potential recording
- Buzzer for easy piercing of the cell membrane
- Bar graph display and audio monitor
- Headstage for extracellular potential recording

The PLUGSYS module MEA is a universal single-channel, easily operated microelectrode amplifier for physiological and pharmacological research. With the aid of the separate preamplifier (headstage) it permits direct measurement of intracellular or extracellular potentials. The compact PLUGSYS module incorporates extensive technology and offers, in addition to its excellent amplifier performance, also all modern extra facilities such as adjustable output filter, calibration generator, audio monitor and LED bar graph for audible and visual signal monitoring, microelectrode function test (resistance measurement), adjustable buzz frequency, capacity compensation and zero balance. Optionally the MEA can be provided with special headstages.



Specifications

Input	Through separate preamplifier (headstage) for direct intracellular or extracellular potential recording
Input Socket	8-pin binder or Amphenol-Tuchel socket with screw lock
Input Capacity Compensation	Continuously adjustable between 0 and 8 pF
Signal Output	Filtered output signal ± 10 V corresponding to ± 1 V input signal (gain 10x)
Internally	On PLUGSYS system bus, assigned via jumper to one of signal lines AV-1 to AV-16.
Externally	By BNC socket on front panel
Amplifier Bandwidth	DC to 30 kHz (-3dB)
Output Filter	Low-pass in 7 steps covering 30 Hz to 30 kHz (-3dB)
Gain	10x (fixed)
Zero Balance	Compensation of input offset in range ± 400 mV
Buzzer	AC feed through microelectrode to assist piercing cell membrane during microelectrode insertion; buzz frequency adjustable with 16-position switch between 10 Hz and 10 kHz to suit actual requirements
Calibration Signal	Generator for signal adjustment to computing amplifier or recorder; pressing CAL key injects complex calibration signal consisting of values 0 V, -100 mV and ± 50 mV referred to input
Analogue Indication	LED bar graph with 30 LEDs for visual monitoring of applied signal (7.5 mV per LED referred to input) For accurate zeroing bar graph range can be expanded by key (magnifier function) to 1.5 mV per LED referred to input
Audio Monitor	Audible monitoring system for measurement signal using monitoring tone whose frequency is modulated according to signal amplitude; loudness and base frequency are individually adjustable by trimmer on front panel
Microelectrode Function Test	Check of microelectrode by feeding in (via the headstage) constant current for approximate measurement of instantaneous electrode resistance; since measurement current may damage microelectrode by electrolysis, test duration automatically limited to 2 secs.
Supply	5 V 1.2 A from PLUGSYS system bus
Dimensions, H x W x D	128.7 x 60.6 x 220 mm (5.1 x 2.4 x 8.7 in)
PLUGSYS Width*	3 slot units
Weight	0.4 kg (0.9 lbs)

Catalog No.

CGS 8426.71

Product

MEA Microelectrode Amplifier Module